KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

RC-13TC
Video Transport Controller

P/N: 2900-000648 Rev 3

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **RC-13TC** *Video Transport* Controller, which is ideal for use as an:

- Advanced, standalone, wall mounted video transport controller. When used in this way, the unit must be configured as well as supplied with 12V DC power

  Refer to the separate online K-Config Configuration Guide at http://www.kramerelectronics.com
- Auxiliary device in a larger Kramer K-NET room control setup

The package includes the following items:

- The **RC-13TC** *Video Transport Controller*
- 3' (0.91m) USB cable
- IR Emitter control cable
- Power supply (12V DC)
- Screwdriver
- This user manual

  The latest Kramer user manuals are available from http://www.kramerelectronics.com
- K-Config Configuration software

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high-performance high-resolution cables

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

This user manual is written for the end user and does not contain details regarding installation and configuration. This information can be found in the *K-Config Configuration Guide*, available from http://www.kramerelectronics.com.

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **RC-13TC** away from moisture, excessive sunlight and dust

Caution: No operator serviceable parts inside the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

3 Overview

This user manual describes the **RC-13TC** *Video Transport Controller*. The **RC-13TC** controller interface acts as an all-in-one, remote control panel for several AV sources in any venue, such as, classrooms, boardrooms or auditoriums. The **RC-13TC** streamlines operations by enabling remote transport control of the video source in the room. The **RC-13TC** features:

- Programmable, backlit buttons (configurable by your system integrator) that are able to execute one or multiple commands (programming performed by your system integrator)
- A bidirectional RS-232 serial port for control of AV equipment
- Two K-NET™ ports
- Two IR control ports
- Support for firmware upgrade via USB or the K-NET™ connection (when installed as an auxiliary device)

4 Defining the RC-13TC Video Transport Controller

This section defines the **RC-13TC**.

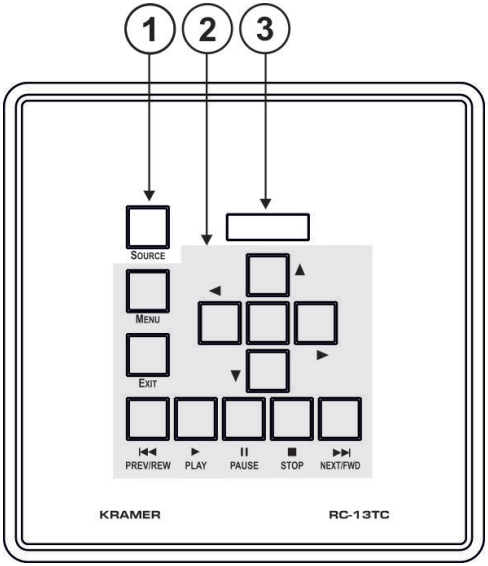


Figure 1: RC-13TC Video Transport Controller Front Panel

#	Feature	Function
1	Source Select Button	Press to select the AV source
2	Video Transport Control Buttons	Use to control the functions of the selected AV source
3	LCD Programmable Readout	Programmable, 8-character LCD readout with white characters on a blue background (which usually reflects the selected AV source name)

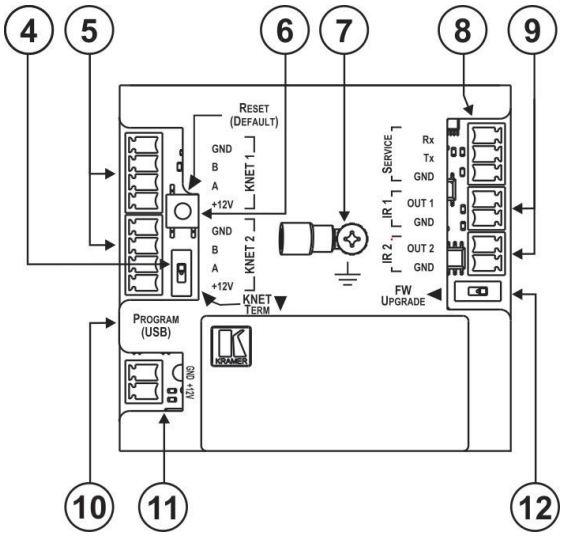


Figure 2: RC-13TC Video Transport Controller Rear Panel

#	Feature	Function
4	*KNET TERM* Termination Switch	Use to set the K-NET bus termination (see Section 5.2.2)
5	*KNET* 4-pin Removable Terminal Blocks (*1* and *2*)	Connect to a master room controller or to another auxiliary device. Connect GND to GND, B to B, A to A, +12V to +12V (see Section 5.2)
6	*RESET (DEFAULT)* Factory Default Reset Button	Press and hold during power-up to erase all custom programming. **Note:** The current LCD text and all button actions are erased
7	Ring Tongue Terminal Grounding Screw	Connect to grounding wire (see Section 6)
8	*RS-232* 3-pin Removable Terminal Block	For controlling a display, switcher, AV source or other AV equipment
9	*IR* Infrared 2-pin Removable Terminal Blocks (*1* and *2*)	Connect to IR emitters (see Figure 3). Connect OUT 1 or OUT 2 to IR+ (anode), GND to GND (cathode)
10	*PROGRAM (USB)* Connector	Connect to a computer to program the unit ID, LCD text and button actions using K-Config Configuration software
11	Power Supply 2-pin Removable Terminal Block	Connect to power supply (see Section 5.1.2). Connect GND to GND, +12V to +12V
12	*FW UPGRADE* Switch	For the use of Kramer service personnel only

5 Using Your Video Transport Controller

This user manual is applicable once the unit is configured and installed (by your system integrator), therefore the following procedures are not detailed in this manual:

- Hardware installation
- Programming the LCD readout using **K-Config Configuration** software (described in the K-Config Configuration Guide)
- Programming the button actions using **K-Config Configuration** software

5.1 The RC-13TC as a Standalone Video Transport Controller

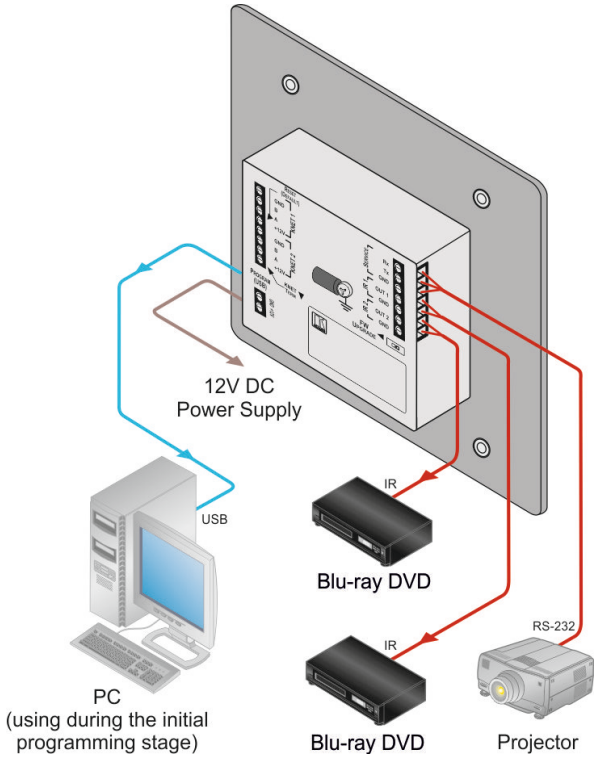


Figure 3: Sample RC-13TC Standalone Video Transport Controller Configuration

When the **RC-13TC** functions as a standalone, wall mounted video transport controller, as illustrated in Figure 3:

- The **RC-13TC** is connected directly to the controlled devices (see Section 5.1.1)
- A +12V DC power supply to the unit is required (see Section 5.1.2)
- The **RC-13TC** requires programming

5.1.1 Connecting the RC-13TC as a Standalone Video Transport Controller

The **RC-13TC** can be connected as a standalone video transport controller as illustrated in the example in Figure 3 with connections as described in the following table:

Your system integrator configures and installs your room controller to suit your requirements. This example describes only one possible configuration.

Connector	Connect to:
GND/+12V	Power adapter
IR 1	Blu-ray DVD player 1
IR 2	Blu-ray DVD player 2
PROGRAM (USB)	PC—required only for configuring the **RC-13TC**
RS-232	Display or switcher

5.1.2 Connecting a Standalone RC-13TC to a Power Supply

When the **RC-13TC** is employed as a standalone room controller it should be connected to the power supply as illustrated in Figure 4.

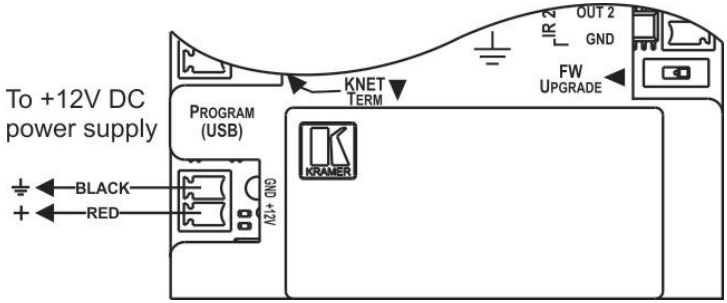


Figure 4: RC-13TC Standalone Power Supply Connection

5.2 The RC-13TC as an Auxiliary Control Panel

When the **RC-13TC** is used as an auxiliary control panel, as illustrated in Figure 5:

- It requires only a K-NET connection to another auxiliary device
- A power supply unit is not required as the K-Net connection carries the power supply
  Power supplies are sold separately. Consult your Kramer dealer for details.
- No programming of the auxiliary panel is needed
- Depending on the setup, the device ID may need setting using the K-Config application
- The RS-232 and IR ports may be used to control devices

5.2.1 Connecting Multiple RC-13TC Devices as System Controllers

Connect the **RC-13TC** devices to the **SV-552** as illustrated in Figure 5.

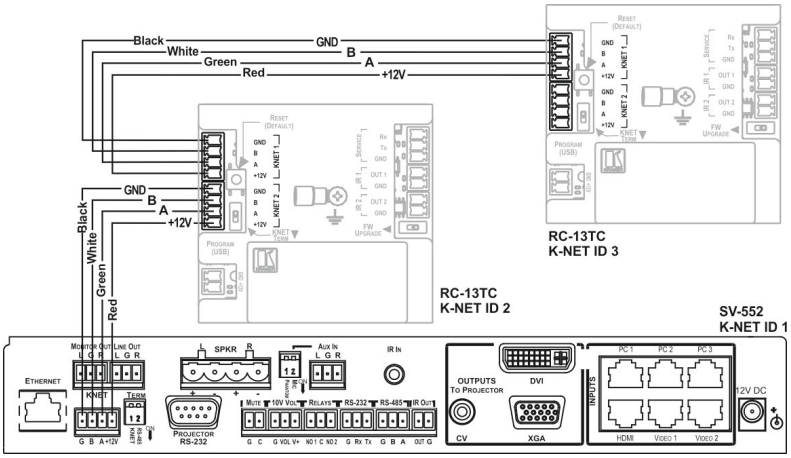


Figure 5: RC-13TC Connections when used as part of a K-NET System

5.2.2 Setting the K-NET Termination

The first and last physical devices on a K-NET bus must be terminated (in this example, devices 1 and 3).

To terminate the RC-13TC:

- Slide the K-NET termination switch down

The factory default is down (terminated).

5.3 Operating the RC-13TC Video Transport Controller

The **RC-13TC** is delivered with no button functions preprogrammed. For the buttons to perform any functions, they must be programmed first.

Once a button is programmed to suit the source or display that is connected, the other button functions are related to the specific device and are context sensitive, that is, the function of a button depends on the specific characteristics of the source or display.

In the example illustrated in Figure 6, the **RC-13TC** LCD has been programmed with text and the buttons have been programmed (by your system integrator) to perform the functions that are relevant to the sources. Individual buttons can be programmed with one or more actions (called a macro).

This is only one example among numerous possibilities as the LCD and each button can be programmed as required.

When pressing a button that has been programmed with a macro, each action is performed sequentially and it may take some time until the macro terminates.

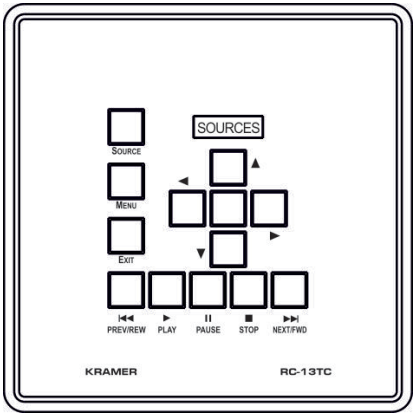


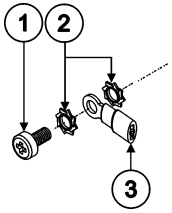
Figure 6: RC-13TC LCD Programmed with Text

6 Grounding the RC-13TC Video Transport Controller

We recommend that you ground the **RC-13TC**.

The grounding screw is used to earth the chassis of the unit to the building ground, preventing static electricity from impacting the performance of the unit.

Figure 7 defines the grounding screw components.



#	Component Description
1	M3x6 screw
2	M3 Toothed Lock Washer
3	M3 Ring Tongue Terminal

Figure 7: Grounding Connection Components

To ground the RC-13TC:

1. Connect the ring tongue terminal to the building grounding point wire (we recommend that you use a green-yellow AWG#18 (0.82mm2) wire, crimped with a proper hand-tool).
2. Insert the M3x6 screw through the toothed lock washers and the tongue terminal in the order shown above.
3. Insert the M3x6 screw (with the two toothed lock washers and ring tongue terminal) into the grounding screw hole and tighten the screw.

7 Mounting the Faceplate

To mount the faceplate:

1. Remove the protective foil from the outside of the LCD acrylic window.
2. Position the faceplate on the **RC-13TC** so that the four screw mounting holes are aligned.
3. Insert the four M3x4mm mounting screws and tighten them with a screwdriver.

8 Technical Specifications

PORTS:	2 K-NET on 4-pin removable terminal blocks 1 USB port 1 +12V DC power input on 2-pin removable terminal block 1 RS-232 port on 3-pin removable terminal block
OUTPUTS:	2 IR control on 2-pin removable terminal blocks
POWER SOURCE:	12V DC, 60mA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	11.4cm x 2.3cm x 11.4cm (4.5" x 0.91" x 4.5") W, D, H
WEIGHT:	0.3kg (0.66lbs) approx.
ACCESSORIES:	USB cable 3' (0.91m) (P/N: C-UA/MUB-3), screwdriver, power supply, IR emitter control cable (P/N: C-A35/IRE-10), Windows®-based Kramer control software, four M3x4mm flat-head screws
OPTIONS:	15m and 20m IR emitter extension cables
Specifications are subject to change without notice at http://www.kramerelectronics.com	

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What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

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How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

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To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

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For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-000648 Rev: 3